

WHAT IS CLAIMED IS:

1. A method of removing printed material on a recording medium comprising:

bringing the recording medium with printed material printed thereon into contact with a surface layer-swelling solvent, the image-recording medium comprising a base layer and a water-swelling surface layer containing a surfactant; swelling the surface of the recording medium; and removing the printed materials from the recording medium by applying a physical force to the recording medium or the printed materials.

2. The image-recording medium of Claim 1, in which the water-swelling surface layer comprises a water-soluble resin crosslinked with a crosslinking agent.

3. The image-recording medium of Claim 2, in which the water-soluble resin is selected from the group consisting of resins having a hydroxyl group, an amino group, an amide group, a thiol group, a carboxyl group, a sulfonic group and a mixture thereof, and the crosslinking agent is selected from the group consisting of epoxy compounds, isocyanate compounds, glyoxals, methylol compounds, melamine compounds (resins), dicarboxylic acids, aziridines, dihydrazides and a mixture thereof.

4. The image-recording medium of Claim 1, in which the surfactant is an anionic surfactant or a nonionic surfactant.

5. The image-recording medium of Claim 1, in which the surfactant is a nonionic surfactant having a hydrophilic-lipophilic balance (HLB) of 9 to 15.

6. The image-recording medium of Claim 1, in which the surfactant comprises at least one compound selected from the group consisting of:



in which R_1 is an alkyl group having carbon atoms of 7 to 14; R_2 is a phenylene group or a naphthylene group; and n_1 is an integer of 3 to 40; and

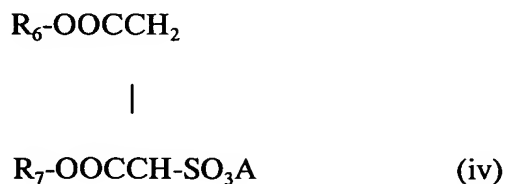


in which R_3 is an alkyl group having carbon atoms of 7 to 14; and n_2 is an integer of 3 to 40.

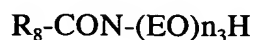
7. The image-recording medium of Claim 1, in which the surfactant comprises at least one compound selected from the group consisting of:



in which R_4 is an alkyl group having carbon atoms of 7 to 14; R_5 is a phenylene group or a naphthylene group; and A is an alkali metal;



in which R_6 and R_7 are respectively an alkyl group having carbon atoms of 7 to 14; and A is an alkali metal;



in which R_8 is an alkyl group having carbon atoms of 7 to 20; R_9 is a hydrogen atom or $-\text{CH}_2\text{CH}_2\text{OH}$; and n_3 is an integer of 1 to 10;



in which R_{10} is an alkyl group having carbon atoms of 7 to 15; n_4 is an integer of 1 to 10; and A is an alkali metal; and



in which R_{11} is an alkyl group having carbon atoms of 7 to 14; n_5 is an integer of 0 to 7; and n_6 is an integer of 1 to 3.

8. The image-recording medium of Claim 1, in which the surface layer has inorganic fine particles or resin fine particles dispersed therein.

9. The image-recording medium of Claim 8, in which the inorganic fine particles are selected from the group consisting of titanium oxide, alumina, zinc oxide, calcium carbonate and a mixture thereof, and the resin fine particles are selected from the group consisting of acrylic resins, styrene resins and a mixture thereof.

10. The image-recording medium of Claim 1, in which the surface layer contains an antistatic agent.